1135-55-770   **Christina Osborne*** (`cdo5bv@virginia.edu`). *The classifying diagram of the category of finite sets.* Preliminary report.

One can classify categories by using the nerve construction. But the nerve cannot determine the difference between certain types of categories. For example, the nerve cannot distinguish the difference between the trivial category and a category with two objects and one nontrivial morphism between the objects. Rezk's classifying diagram is a generalization of the nerve and can distinguish the difference between these categories. In this talk, we will discuss applying the classifying diagram to the category of finite sets. Time permitting, we will also mention the classification diagram, which is a generalization of the classifying diagram, and our future research goals of using it in functor calculus. (Received September 14, 2017)